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ABSTRACT

A study was conducted to investigate the validity of Tinto's model of college withdrawal in a public four-year college and a private two-year institution. The model consists of six sets of variables in a causal sequence; i.e., background characteristics, initial goal and institutional commitment, academic and social integration, subsequent goal and institutional commitment, intention to persist or withdraw, and persistence/withdrawal behavior. Data for the study were collected during the 1986-87 and 1987-88 academic years from 400 randomly selected, full-time, white, female, residential freshmen. The students were surveyed regarding their interactions with peers, faculty, and the institution, and regarding the educational goal commitments that resulted from integration into the social and academic systems of the institution. Additional information on student background characteristics were supplied by the schools. Study findings, based on responses from 165 (83%) of the junior college students and 100 (51%) of the university students, included the following: (1) in the pooled sample, persistence was directly affected only by intention, though both institutional commitment and social integration had indirect effects on persistence; (2) in both samples, background characteristics played a minimal role in predicting persistence/withdrawal behavior, which was consistent with Tinto's model; (3) at the private institution, academic integration was seen to have a direct negative effect on academic persistence; and (4) institutional commitment was strongly linked to social integration, but, contrary to theoretical expectations, goal commitment was not associated with academic integration. (AAC)

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Abstract

Authors investigated the validity of Tinto's (1987) model of college withdrawal in a four-year public and a two-year private institution. Institutional commitment was most directly affected by social integration. Such commitment is seen as pivotal to persistence.

Tinto's Model of College Withdrawal Applied to Women in Two Institutions

Why students drop out of college has been an educator's conundrum for decades. However, to state that the causes and cures of student departure from higher education are beyond understanding adds nothing to our theoretical or practical knowledge about its dynamics. While the extensive body of literature which speaks to the question of student departure is voluminous, we are still unable to answer how and why different retention efforts work on different campuses for different types of students.

Tinto (1975, 1987) advocated longitudinal, explanatory approaches as key to enhancing our understanding of student departure. He designed a model that helps administrators distinguish those attributes of successful programs that are institution-specific from those which are essential to the success of all types of retention efforts. His model is based upon the concept of social and academic integration. Institutional departure is viewed as a longitudinal process of interactions between an individual with background characteristics, intentions and commitments, and other members of the academic and social systems of the institutions. In the final analysis, whether or not the individual decides to drop out is based on the interplay between commitment to the goal of college completion and commitment to the institution. Tinto (1975, 1987) posited that integration into the academic system of college is what most directly affects goal commitment, whereas behaviors in the social system most directly relate to a person's institutional commitment. Tinto's (1987) model portrays six different constructs or variable sets in a causal sequence: (a) background characteristics, (b) initial goal and institutional commitments, (c) academic and social integration (d) subsequent goal and institutional commitments, (e) intention to

persist, and (f) withdrawal decisions. His original model (Tinto, 1975) consisted of all six variables mentioned except "intention to persist."

Even though recent research has confirmed the predictive validity of Tinto's constructs in predicting student persistence (Aitken, 1982; Bean, 1980; Fox, 1984; Munro, 1981; Pascarella and Chapman, 1983; Pascarella and Terenzini, 1983; Pascarella, Duby, Terenzini, and Iverson, 1983; and Terenzini et al, 1983), these empirical confirmations have been conducted mostly at four-year, large residential institutions. Tinto's model needs to be tested with other populations if we are to better understand the contribution of personal and institutional characteristics to good student-college fit. This will enable educators to tailor college programs to differing student needs and counsel students into existing programs from which they are most apt to benefit. Only recently have validations of Tinto's model been tested within different types of institutions or on particular populations. Pascarella, Duby and Iverson (1983) reconceptualized Tinto's model (i.e., added the intention variable) for use in nonresidential institutions and concluded that, based on a single institution sample of 269 students (46.5% response rate), while commuter institutions as a group may differ substantially from residential institutions in the educational, cultural, and social experiences they provide students, within the broad category of commuter colleges, there is likely to be considerable between-institution variance. An important contribution to our understanding of the institutional determinants of student persistence/withdrawal behavior might be to investigate the patterns of influence suggested by their revised model.

In a multi-institutional assessment of Tinto's original model, Chapman and Pascarella (1983) investigated patterns of social and academic integration across four types of institutions for 2,410 full-time freshman students

from eleven institutions. Two four-year and three two-year commuter institutions were included. Their multi-institutional effort, while confirming the variation of patterns of student participation in the social and academic life of the college, was limited by a reduced response rate (i.e., 35% response rate) and did not include two-year private colleges. They concluded that student involvement in the academic and social life of their college varies by institutional type and warned that aggregation of data across colleges without respect to type might mask differences that could exist.

Of particular interest with respect to type is the two-year private college. Our study was designed after a review of pertinent literature revealed no validation of Tinto's model within the private two-year college setting. While validations of his model contrasting the community college student to the university student reveal interesting differences (Chapman and Pascarella, 1983; Pascarella and Chapman, 1983), evidence also exists to suggest that community college students differ from private junior college students. Blai (1982) contrasted students from a private, all-female two-year college with community college students in terms of their attitudes and values, reasons for attending college, rates of and reasons for attrition, and evaluations of their colleges and programs. Private college students were found to have less interest in vocational goals and higher levels of conservatism relative to community college students. In a comparison of values of all female private two-year college and public college students, he found significant consistencies in the values of the two groups. Blai concluded that two-year private college students were more alike than different relative to four-year public college students. In an earlier study of two-year college dropouts, Blai (1972) concluded that small enrollment schools (250-750), whether two-year or four-year, enjoyed higher retention

rates. Out of sixty two-year colleges studied, he found that all-female, church-related colleges held the highest rate of retention for freshmen one year after entry (84%).

As to validations of Tinto's model on particular populations, Pascarella, Smart and Ethington (1986) found important gender differences. In a study of the long-term persistence of community college students, they suggested that separate analyses are necessary for men and women. Their results indicated that institutional commitment after one year had significantly stronger positive influence on persistence for men than it did for women. Thus, pooling male and female samples may indeed mask important differences in patterns of effects on persistence.

Given the need to disaggregate institutional withdrawal behavior at the highest possible level of specificity, and the fact that voluntary withdrawal is heaviest at the end of the freshman year (Eckland, 1974; Pantages and Creedon, 1978), our study focused on white freshman women living in one of two residential settings who had similar academic backgrounds (i.e., SAT scores and high school rank). Applying Tinto's model of college withdrawal to women in two institutions seems appropriate in that: (a) it has never been validated within the private, two-year college setting; (b) enrollment is projected to decline between 1987-1991 (Chronicle, 1987) for two-year (-0.9%) and private colleges (-4.3%); and (c) there exists a strong transfer relationship between two-year and four-year institutions. It might reasonably be expected that, even between similar groups at different types of institutions, the ways in which social and academic integration influence commitments and persistence differ significantly.

The purpose of our investigation was to extend knowledge of the explanatory power of Tinto's theoretical model of college persistence/withdrawal in

two dissimilar institutional environments for two academically similar groups of students. Specifically, the study sought to determine whether the pattern of influences hypothesized by Tinto's model demonstrated greater explanatory power when applied to each institution separately or when applied to the combined data set from both institutions. Path analysis was used to test the model at two institutions with a wide reputation for transfer after the freshman year. The model was tested on a residential sample at a four-year public, predominantly commuter, coeducational institution, as well as at a two-year, private, liberal arts, residential, female junior college. Results of this study could help educational planners (a) identify the longitudinal processes and procedures by which individuals come to voluntarily withdraw from institutions of higher education, and (b) focus on the social and intellectual context of the institution.

METHOD

Design and Sample

The design of the study was longitudinal with data collected during the 1986-87 and 1987-88 academic years. During June 1987, 400 full-time, white, female, residential freshmen randomly selected from two institutions were sent the Freshmen Experience Survey (FES). The 34-item FES was based on Pascarella and Terenzini's (1980) Institutional Integration Scales and Bean's (1981) "Intention" construct. The additional variable term "intention to leave or stay" was added to the model after Pascarella, Duby and Iverson (1983) found it to have the strongest direct effect of any single predictor on freshman year persistence/withdrawal decisions. Tinto (1987) subsequently revised his model to include the intention variable. The FES measured interactions among peers, with faculty and with the institution, and educational goal commitments that resulted from student integration into the

social and academic systems of the university. Additional information on student background characteristics was collected from official university records (i.e., high school rank, academic aptitude, and financial support).

At a primarily commuter institution located on the coast and consisting of over 6,500 students, only residential women were sent surveys. This included 200 of the 378 white, female, residential freshmen. Five women of the 200 were found to be academically ineligible to return and were excluded from the survey. After a mail follow-up, usable responses were obtained from 100 students (51%). These public university women were representative of the institution's white, female, freshman population with respect to high school rank, academic aptitude (SAT) and financial support (SPT: parents' income and financial aid status of the student). However, nonrespondents had significantly lower first year grade-point averages than respondents (t=3.27, df=1,198, p<.01).

At an all-female, private, residential junior college located in the central part of the same state as the coastal institution, and consisting of 500 students, 200 of 213 white freshmen received surveys. After one follow-up, usable responses were received from 165 students (83%). Respondents were representative of the institution's freshman population with respect to high school rank, SAT, SPT, and first year GPA.

A review of each student's record in the fall of 1987 indicated that nine of the 100 public institution women had withdrawn voluntarily at the end of their freshman year, while ten of 165 private junior college women had done so. Forced withdrawals were eliminated from the study because evidence suggests that they are significantly different from voluntary withdrawals (e.g., Cope and Hannah, 1975). Thus, first-year persistence versus voluntary withdrawal was the focus of the study. The 6% voluntary freshman-to-

sophomore withdrawal rate for the two-year institution is consistent with previously known voluntary withdrawal rates for this institution's white female residential freshman population. The 9% withdrawal rate for the four-year institution, however, underrepresents the 18.6% withdrawal rate for the population of freshman residential women (NCHED, Fall 1987).

Variables

This study included the major constructs of Tinto's (1987) reconceptualized model. Variable sets include: (a) background characteristics, (b) academic and social integration, (c) subsequent goal and institutional commitment, (d) intention to persist or withdraw; and (e) persistence/withdrawal behavior. Information regarding initial goal and institutional commitment was not available because data were collected at the end of the freshman year. Actual indicators used to assess academic/social integration and institutional and goal commitment were either derived from the Tinto model or adopted from instruments employed in previous validations of the model (e.g., Terenzini and Pascarella, 1977; Pascarella and Terenzini, 1983). A factor analysis of the 34-item FES was conducted to estimate instrument validity for the students in our sample. Items were included if they correlated at least .40 with the factor. A principle axis and oblique rotation factor analysis with iteration method resulted in five major factors that accounted for 50.4% of the variance in the integration and commitment measures. Table 1 shows Cronbach's alpha reliabilities and the factor loadings for the five scales.

(Table 1 about here)

Operational definitions of the five major constructs of Tinto's model follow:

Background Characteristics

Tinto (1987) claims that because of the dynamic nature of the social and intellectual life of the communities which are housed in the institution and the daily interaction which occurs among its members, precollege characteristics have minimal impact on the dropout decision for residential populations. Nevertheless, our study included three student background characteristics suggested as potentially important influences on both social and academic integration and persistence by various critical reviews of attrition research (Cope and Hannah, 1975; Pantages and Creedon, 1978; Spady, 1970).

Family background was operationalized by one variable termed support (SPT). This was the sum of the parents' combined income (13 categories from "less than $4,000" to "50,000 or more"), and the amount of financial aid awarded from all sources during the first year (six categories coded in reverse: 6="no aid" to 1="greater than $2,000"). SPT was derived from official university records. Academic aptitude (SAT composite scores) was the only individual attribute measured. Precollege schooling was measured by one variable termed percentile rank in graduating class.

Social Integration

As the sum of the following four variables (data for which were collected on the FES), social integration was operationally defined as: (a) student activities during the freshman year of two or more hours per week; (b) frequency of freshman year nonclassroom contacts with faculty of ten minutes or more for specific purposes (e.g., socialize informally, discuss a campus issue or problem); (c) a factorially derived scale composed of the two highest loading items measuring the quality and impact of the student's nonclassroom contacts with faculty; and (d) a factorially derived scale

composed of the two highest loading items measuring the extent and quality of the student's relationships with student peers.

Academic Integration

As the sum of the following four variables (data for which were collected on the FES or from official university records), academic integration was operationally defined as: (a) freshman year cumulative grade-point average (taken from official university records in September of 1987); (b) a factorially derived scale composed of the two highest loading items measuring a student's perception of faculty concern for quality classroom teaching and student development; (c) a factorially derived scale composed of the two highest loading items measuring a student's perceived level of intellectual development during the freshman year; and (d) frequency of freshman year nonclassroom contacts with faculty of ten minutes or more for specific purposes (e.g., to discuss intellectual or course related matters, get basic information and advice about individual academic programs). The academic and social integration scales had internal consistency reliabilities of .66 and .74 respectively and were correlated .51 in the overall sample. This indicates that their constructs were tapping similar aspects of the freshman year experience.

Goal and Institutional Commitment

Commitment to the goal of graduation and to the institution were measured by the following two scales (considered measures of both academic and social integration): (a) Goal Commitment - one item: "It is important for me to graduate from college" (from 1=strongly disagree to 5=strongly agree); and (b) Institutional Commitment - two items: "I am confident that I made the right decision in choosing to attend this college" (from 1=strongly disagree to 5=strongly agree), and "It is not important for me to graduate

from this college" (from 1=strongly agree to 5=strongly disagree). In the overall sample, institutional and goal commitment items were correlated .29.

Intention to Persist or Withdraw

Intention was a single item: "It is likely that I will return next fall" (from 1=strongly disagree to 5=strongly agree).

Persistence/Withdrawal

Freshman year voluntary persistence/withdrawal behavior (referred to as persistence) was the only dependent measure taken and was obtained from official university records in the fall of 1987 (dummy coded 2=persisters and 1=voluntary withdrawals). Of the 265 freshman respondents, 92.8% (246) were persisters and 7.2% (19) were voluntary withdrawals. Combination items scaled on a different metric (i.e., support, academic integration, and social integration) were constructed by initially standardizing each constituent item or subscale and then summing across standardized items (Armor, 1974). A constant of +10 was added to eliminate negative scores. This adjustment technique for scaling differences is common among other validations of Tinto's model (e.g., Pascarella et al, 1980, 1983, 1986).

Statistical Analysis

Path analysis was the major statistical procedure used. Terenzini (1982) claims that path analytic thinking can only improve attrition studies because they force one to specify (in advance of data collection and analysis) the variables to be measured and the relations presumed to exist among them. For a statistical explanation of path analysis, please see Duncan (1966) or Kerlinger and Pedhazur (1973). A reduced path model for each validation resulted from obtaining only significant standardized path coefficients (beta weights). Specifically, the path analysis was employed in two phases to test the validity of the causal model. Phase I consisted of

determining the significance of all direct and indirect causal effects. Structural equations yielded standardized regression (beta) weights which can be interpreted as "direct causal effects" (Kerlinger and Pedhazur, 1973) controlling for all other variables in the equation. Through a software application called Project Gemini, the significance of indirect effects were tested (Wolfle, 1985). Phase II consisted of a second round of regressions, eliminating nonsignificant paths from the first series of regressions. These analyses yielded a "reduced" path model (Heise, 1975). The path analyses were carried out with the SPSSx program (Nie et. al., 1986) using $p < .05$ as the criterion for retaining a path. Three separate path analyses were conducted: for the overall sample and for each institution.

RESULTS

Table 2 displays the means, standard deviations, and intercorrelations among variables in the model for the pooled sample. All path analyses were based on these descriptive statistics and the correlation matrix. As Table 2 shows, 93% of both samples returned for their sophomore year (1=voluntary withdrawals; 2=persisters).

(Table 2 about here)

Figure 1 shows the reduced path model for the pooled analysis. In examining the left to right causal flow, the reduced model explained 44% of the variance in persistence and appears consistent with Tinto's theoretical expectations. In the pooled sample, persistence was directly affected only by the intention variable; however, both institutional commitment and social integration had significant indirect effects on persistence. Social integration was mediated primarily by institutional commitment; institutional commitment by the intention variable. Academic integration had neither a significant direct nor indirect effect on persistence. The effect of goal

commitment was nonsignificant. Thus, persistence in the pooled sample was chiefly a function of intention, institutional commitment and social integration.

(Figure 1 about here)

Table 3 shows the means, standard deviations, and intercorrelations among variables for the separate analyses from which the path models were derived. Figures 2 and 3 present the reduced path model for both institutions. Such dissaggregation of data by institutional type reveals a number of interesting trends.

(Table 3 and Figures 2 and 3 about here)

First, it is evident from the figures that background characteristics played a minimal role in predicting persistence/withdrawal behavior. Neither sample had direct nor indirect effects on persistence resulting from background variables. This finding is consistent with Tinto's theoretical expectation at residential institutions and corroborates findings of Pascarella and Chapman (1983). From their path analytic, multi-institutional test of Tinto's model at four primarily residential institutions, they concluded that the influence of background characteristics is largely indirect, mediated by social integration, the commitment variables, or living on campus. Given that both samples in the present study were taken from residential populations, and Chickering's (1974) claims that actual experiences are more influential in the residential environment, it is not particularly surprising that background traits were eclipsed by experiential variables.

A second interesting trend was found in the role played by social and academic integration, Tinto's central concepts. Tinto (1975, 1987) posited that both would have strong direct effects on persistence. At both institu-

tions, social integration had only indirect significant effects on persistence transmitted through its influence mostly on institutional commitment. Conversely, academic integration had a somewhat stronger direct effect than social integration in the two-year private sample. The direct effect of academic integration was negative, indicating that the more academically integrated student withdraws after the first year, a finding consistent with that of Pascarella, Duby and Iverson (1983). In the public institution, academic integration had neither a direct nor indirect effect on voluntary persistence. This finding was consistent with Pascarella and Chapman's (1983) path analytic study of primarily residential institutions.

A third interesting trend concerns the role played by the commitment variables. Tinto (1975, 1987) claimed that the higher the level of institutional and goal commitment, the more likely the student would persist at the institution. In the relationship between integration and dropout, and between commitment and dropout, he linked academic integration to goal commitment, and social integration to institutional commitment. In the present study, the findings are not totally consistent with theoretical expectations. While institutional commitment was strongly linked to social integration, goal commitment was not associated with academic integration. Moreover, it was institutional commitment in both samples that had significant indirect effects on persistence. This finding was consistent with previous studies of a similar nature (e.g., Bean, 1981; Pascarella et. al, 1983). Goal commitment, however, had neither direct nor indirect effects on persistence in either sample. Thus, it would appear that institutional commitment in both samples is largely a function of the student's interaction with the social system of the institution. Beta weights impacting institutional commitment were considerably larger coming from the social integration

variable as compared with the academic integration variable. Interestingly, the only other variable with significant direct effects on institutional commitment came from the private two-year college in the form of academic integration. This finding was contrary to Tinto's expectation since institutional commitment was posited to be linked mostly with social integration. It would appear that students likely to leave after one year at the two-year college were academically integrated and committed to the institution.

DISCUSSION

The results of this investigation generally supported the predictive validity of Tinto's (1987) model. In the overall analysis pooling two diverse institutions, a reduced path model was produced which in many ways was consistent with Tinto's expectations. Important interinstitutional and intragender differences, however, existed when the data were disaggregated by institutional type. The data indicate a need for colleges and universities to be cautious in interpreting results of aggregate patterns of institutional departure. For example, when one examines aggregate data from the path analyses, he/she might believe that because academic integration had a nonsignificant effect on persistence, women would be as likely to stay as leave, regardless of their academic integration. This would be a false assumption revealed when one examines data from each individual institution. Among women from the two-year institution, those most likely to withdraw were the academically integrated. Thus, while the multi-institutional approach taken in this article revealed individual and institutional attributes associated with aggregate patterns of departure, it is the disaggregated data by institutional type that offer the most value in the development of institution-specific retention policy.

For both the combined and separate analyses in this study, the challenges for institutions of higher education seem related to the cultivation of institutional commitment. Tinto (1987) claims that it is the daily actions of institutional members which are the source of the development of student commitment to the institution. This service-to-students orientation is probably what underlies the paradox of institutional commitment evidenced from the junior college data in this study. Nonpersisters were highly academically integrated, yet, these same students were as committed to the institution as persisters. This finding is inconsistent with the model and with previous research at residential institutions (Pascarella and Terenzini, 1980). At first glance, such a finding is difficult to explain. Why should students with higher and more satisfying levels of academic integration, and who claim to be confident of their college choice and plan to graduate from their current college, tend to voluntarily withdraw?

One possible explanation has to do with the characteristics of students who have high levels of academic integration. The more academically integrated student at a two-year private women's college, because of the personality factors that may influence her behavior, may also be significantly more sensitive than her less academically involved counterpart to the relatively limited opportunities for satisfying intellectual interaction with faculty and peers. This, in turn, may make the academically integrated student more likely to transfer to a four-year institution where the increased opportunities for academic involvement are more consistent with her expectations. In terms of persistence, then, academic integration may be somewhat of a liability if it raises expectations for intellectual involvement which the college may not be able to satisfy.

Given the plausibility of such an explanation for the negative influence of academic integration, why is a wrong prediction made when Tinto's model is applied to a two-year residential sample? Perhaps it is because Tinto's model assumes that the institution provides ample opportunities for academic integration. If, for example, the institution fails to provide honors programs, accelerated curricula or special major programs of study, then this may result in the withdrawal of high achieving, intellectually oriented students who are otherwise well integrated into the college's academic system. Continuance at that particular school, under such circumstances, could be negatively associated with academic integration.

The fact that academically integrated students who withdraw claim to be committed to the institution could be partially explained by their interpretation of the survey questions. Given that one item was negatively stated ("It is not important for me to graduate from this college."), students may have become confused in answering it using a five-point Likert scale. Or, it could be that they had originally planned to attend only one year prior to transferring. In such case, they would feel confident in choosing to attend their current college. In any case, it is feasible that a student could maintain short-term (i.e., one year) commitment to an institution and then depart it.

A final issue in the applicability of Tinto's model to women in two institutions concerns the role of integration variables. In both institutions studied, it was student interaction with the social system that most strongly affected institutional commitment, and, subsequently, persistence. This finding echoes Tinto's claim that behaviors in the social system were most directly related to institutional commitment. Pascarella and Chapman (1983) discerned a similar trend among residential institutions. They found

that social integration played a stronger role in influencing persistence at primarily residential institutions. Thus, it would appear that institutional commitment is largely a function of the student's interactions with the social system of the residential institutions. Residing on campus, even at a primarily commuter institution, seems to have reliable direct and indirect effects on persistence. In a related study, Pascarella and Terenzini (1983) found that social integration for women had a somewhat stronger direct effect on persistence than did academic integration. In the present study, social integration also had the stronger effect, albeit indirect.

These finding based on institutional type and gender suggest different challenges for different types of institutions for achieving enhanced student retention. For both the private and public institutions studied in this research, individual intentions and commitments to the institution, along with the interplay of formal and informal interactions within the social system more than the academic system of the college, seem to have the greatest effect on student persistence/withdrawal decisions.

Most research has shown that the reasons for withdrawal may be very different depending upon which subpopulation of students one is talking about. Therefore, we recommend that future retention studies continue to focus around identified issues and target populations. Our study addressed the issue that theoretical models of college withdrawal, such as Tinto's, need to be tested with diverse populations. Our target population consisted of residential women at two types of institutions. The results of such a test could be used in developing student-retention programs. Given a plain and visible commitment by top administration and coordination/commitment among campus retention constituencies, a student-to-student initiative could be formulated; that is, female persisters in our study with high levels of

commitment and integration could be organized into peer-tutors for high risk females. This concept could be applied to other subpopulations studied as well.

LIMITATIONS

This study has several weaknesses. The generalizability of the study, while not limited by the reduced response rate of previous studies of a similar nature (e.g., 35% in both Chapman and Pascarella, 1983 and Pascarella and Chapman, 1983), is limited by potential problems with the validity of measures employed to tap Tinto's constructs. Social and academic integration variables could possibly be interchanged; however, assignment of specific variables to the composite scales is based on judgments made by previous researchers of what Tinto (1987) means by social and academic integration.

Another limitation is that data for the four-year sample was biased in that the respondent group over-represented both high GPA students and persisters relative to this sample's nonrespondent group. This probably answers why the four-year and two-year samples were so much alike in terms of GPA and persistency rates. Tinto's model for nonrespondents may have revealed a much different pattern.

Because the study was not able to differentiate between withdrawing students who transferred to other institutions and those who withdrew from higher education altogether, the definition used to describe voluntary, freshman year persistence/withdrawal decisions is limitation. As in Pascarella and Terenzini (1983), the fact that goal commitment had a weaker effect on persistence than did institutional commitment may suggest that the model in this study is explaining transfer rather than permanent dropout. Clearly, future validations of the model would do well to disaggregate institutional withdrawal behavior at the highest level of specificity.

REFERENCES

Aitken, N. (1982). College student performance, satisfaction and retention: Specification and estimations of a structural model. Journal of Higher Education, 53, 32-50.

Armor, D. (1974). Theta reliability and factoring scaling. In H. Costner (Ed.), Sociological Methodology: 1973-74 (pp. 17-50). San Francisco: Jossey-Bass.

Bean, J. (1980). Dropouts and turnover: The synthesis and test of a causal model of student attrition. Research in Higher Education, 12, 155-187.

Bean, J. (1981). Student attrition, intentions and confidence: Interaction effects in a path model. Paper presented at the annual meeting of the American Educational Research Association, Los Angeles.

Bean, J. (1982). Conceptual models of student attrition: How theory can help the institutional researcher. In E. T. Pascarella (Ed.) Studying student attrition: New directions for institutional research (Monograph No. 36) (pp. 17-33). San Francisco: Jossey-Bass.

Blai, B. (1972). Two-year college dropouts -- why do they leave? who are they? how many? (Report No. IRR-72-11). Bryn Mawr, PA: Harcum Junior College. (ERIC Document Reproduction Service No. ED 227 887).

Blai, B. (1982). Private junior college students: A profile. (Report No. RT-143). Bryn Mawr, PA: Harcum Junior College. (ERIC Document Reproduction Service No. 227 887).

Chapman, D., and Pascarella, E. (1983). Predictors of academic and social integration of college students. Research in Higher Education, 19, 295-322.

Chickering, A. (1974). Commuting versus residential students: Overcoming education inequities of living off-campus. San Francisco: Jossey-Bass.

Cope, R., and Hannah, W. (1975). Revolving college doors: The causes and consequences of dropping out stopping out and transferring. New York: Wiley-Interscience.

Duncan, O. (1966). Path analysis: sociological examples. The American Journal of Sociology, 72, 1-16.

Eckland, B. (1964). College dropouts who came back. Harvard Educational Review, 34, 402-420.

Fox, R. (1984). Reliability and Discriminant validity of institutional integration scales for disadvantaged college students. Educational and Psychological Measurement, 44, 1051-1057.

Heise, D. (1975). Causal Analysis. New York: Wiley.

Kerlinger, F., and Pedhazur, E. (1973). Multiple regression in behavioral research. New York: Holt, Rinehart and Winston.

Munro, B. (1981). Dropouts from higher education: Path analysis of a national sample. American Education Research Journal, 81, 133-141.

NCHED (North Carolina Higher Education) A-7 Report (Fall 1987), Student Retention Data Survey.

Nie, N., Hull, C., Jenkins, J., Steinbrenner, K., and Bent, D. (1986). Statistical package for the social sciences (SPSSx). New York: McGraw-Hill.

Pantages, T., and Creedon, C. (1978). Studies of college attrition: 1950-1975. Review of Educational Research, 48, 49-101.

Pascarella, E., and Chapman, D. (1983). A multiinstitutional, path analytic validation of Tinto's model of college withdrawal. American Educational Research Journal, 20, 87-102.

Pascarella, E., Duby, P., and Iverson, B. (1983). A test and reconceptualization of a theoretical model of college withdrawal in a commuter-institution setting. Sociology of Education, 56, 88-100.

Pascarella, E., Duby, P., Terenzini, P., and Iverson, B. (1983). Student-faculty relationships and freshman year intellectual and personal growth in a nonresidential setting. Journal of College Student Personnel, 24, 395-402.

Pascarella, E., Smart, J., and Ethington, C. (1986). Long-term persistence of two-year college students. Research in Higher Education, 24, 47-71.

Pascarella, E., and Terenzini, P. (1980). Predicting persistence and voluntary dropout decisions from a theoretical model. Journal of Higher Education, 61, 60-75.

Pascarella, E., and Terenzini, P. (1983). Predicting voluntary freshman year persistence/withdrawal behavior in a residential university: A path analytic validation of Tinto's model. Journal of Educational Psychology, 75, 215-226.

Pascarella, E., Terenzini, P., and Wolfle, L. (1986). Orientation to college and freshman year persistence/withdrawal decisions. Journal of Higher Education, 57, 155-175.

Spady, W. (1970). Dropouts from higher education: An interdisciplinary review and synthesis. Interchange, 1, 64-85.

Spady, W. (1971). Dropouts from higher education: Toward an impirical model. Interchange, 2, 38-62.

Students. (1987, November 25). Chronicle of Higher Education, p. A29.

Terenzini, P. (1982). Designing attrition studies. In E. Pascarella (Ed.), Studying Student Attrition. New Directions for Institutional Research: Vol. 36. San Francisco: Jossey-Bass, 55-71.

Terenzini, P., and Pascarella, E. (1977). Voluntary freshmen attrition and patterns of social and academic integration in a university: A test of a conceptual model. Research in Higher Education, 6, 25-43.

Terenzini, P., Pascarella, E., Theophilides, C., and Lorang, W. (1983, May). A replication of a path analytic validation of Tinto's theory of college student attrition. Paper presented at the annual meeting of the American Education Research Association, Montreal.

Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. Review of Educational Research, 45, 89-125.

Tinto, V. (1987). Leaving college: Rethinking the causes and cures of student attrition. Chicago: The University of Chicago Press.

Wolfle, L. (1985). Applications of causal models in higher education. In J. Smart (Ed.), Higher Education: Handbook of Theory and Research, Vol I (pp. 381-414). New York: Agathon Press.

Table 1
Factor Loadings and Reliabilities of Freshmen Experience Survey[a]

Item[b]	Alpha Reliability[c]	Factor Loading 1	2	3	4	5
Factor 1: Informal Relations with Faculty	**(.88)**					
My non-classroom interactions with this college's faculty members have had a positive influence on my intellectual growth and interest in ideas.		.84				
My non-classroom interactions with this college's faculty have had a positive influence on my personal growth, values and attitudes.		.83				
My non-classroom interactions with this college's faculty members have had a positive influence on my career goals and aspirations.		.80				
I am satisfied with the opportunities to meet and interact informally with faculty members.		.75		-.42		
Since coming to this college I have developed a close, personal relationship with at least one faculty member.		.72				
Most of this college's faculty members I have had contact with are interested in helping students grow in more than just academic areas.		.68		-.44		
Most of this college's faculty members I have had contact with are genuinely interested in teaching.		.49			.44	
In addition to required reading assignments, I typically read many of the recommended books in my courses.						
I have no idea at all what I want to major in.						
Factor 2: Peer Group Relations	**(.88)**					
Since coming to this college I have developed close personal relationships with other students.			.86			
The student friendships I have developed at this college have been personally satisfying.			.83			

Table 1. (continued)
Factor Loadings and Reliabilities of Freshmen Experience Survey[a]

Item[b]	Alpha Reliability[c]	Factor Loading 1	2	3	4	5
Factor 2 - continued						
My interpersonal relationships with other students at this college have had a positive influence on my personal growth, values and attitudes.			.81			
My interpersonal relationships with other students at this college have had a positive influence on my intellectual growth and interest in ideas.			.79			
It has been difficult for me to meet and make friends with other students.			-.71			
Most students at this college have values and attitudes which are different from my own.			-.49	.41		
I am happy with my living/residence arrangement at this college.			.43			
I am satisfied with the opportunities to participate in organized extracurricular activities at this college.			.40			
I am dissatisfied with my dating relationships at this college.						
Factor 3: Faculty Concern for Teaching and Student Development	(.82)					
Few of this college's faculty members I have had contact with are genuinely outstanding or superior teachers.				.79		
Few of this college's faculty members I have had contact with are willing to spend time outside of classes to discuss issues of interest and importance to students.				.78		
Few of this college's faculty members I have had contact with are genuinely interested in students.				.77		
Few of this college's students I know would be willing to listen to me and help me if I had a personal problem.			-.42	.67		
Few of my courses this year have been intellectually stimulating.				.66		

Table 1. (continued)
Factor Loadings and Reliabilities of Freshmen Experience Survey[a]

Item[b]	Alpha Reliability[c]	Factor Loading 1	2	3	4	5
Factor 4: Academic/Intellectual Development	**(.71)**					
I am satisfied with the extent of my intellectual development since enrolling at this college.		.41			.71	
I am satisfied with my academic experience at this college.		.40			.65	
I have performed academically as well as I anticipated I would.					.59	
My academic experience at this college has had a positive influence on my intellectual growth and interests in ideas.					.58	
I am more likely to attend a cultural event (for example, a concert, lecture, or art show) now than I was before coming to this college.					.54	
My interest in ideas and intellectual matters has increased since coming to this college.					.47	
Factor 5: Institutional and Goal Commitments	**(-.82)**					
It is important for me to graduate from college.						-.71
It is likely that I will return to this college next fall.						-.69
It is not important for me to graduate from this college.						.64
Getting good grades is not important to me.						.55
I am confident that I made the right decision in choosing to attend this college.					.49	-.49

NOTE: Total variance accounted for by five factors = 50.4%: Factor 1, 29.9%; Factor 2, 8.1%; Factor 3, 6.3%; Factor 4, 4.8%; Factor 5, 4.3%. Factor reliabilities are given in parentheses.

[a] Scored strongly agree (1) to strongly disagree (5).
[b] Negatively worded items were reverse coded for consistency with other items.
[c] Combined samples from both institutions.

Table 2.
Means, Standard Deviations, and Intercorrelations Among Variables--
Aggregated Data

Variables[a]	Means	Standard Deviations	Correlations[b]								
			1	2	3	4	5	6	7	8	9
1 Rank	75.56	17.46									
2 SAT	880.23	126.73	35								
3 SPT	19.42	0.86	-11	-04							
4 Soc	69.98	4.35	03	08	05						
5 Acad	70.00	4.01	30	34	-01	51					
6 Goal	4.86	0.41	00	-01	-06	23	18				
7 Inst	8.54	1.72	10	03	00	46	34	29			
8 Intent	4.56	0.98	-04	02	06	27	15	22	54		
9 Persist	1.93	0.26	-12	-09	09	18	03	16	33	66	

[a] Rank = secondary school rank; SAT = Scholastic Aptitude Test; SPT = Financial support; SOC = Social integration; Acad = Academic integration; Goal = Goal commitment; Inst = Institutional commitment; Intent = Intention to return next fall; Persist = Actual freshman year voluntary persistence/withdrawal behavior.

[b] Decimals omitted from correlations.

Table 3.
Means, Standard Deviations, and Intercorrelations Among Variables--Disaggregated Data[a]

Variables	2-yr Private M	2-yr Private SD	4-yr Public M	4-yr Public SD	Correlations 1	2	3	4	5	6	7	8	9
1 Rank	76.86	17.46	72.20	18.20	1	20	12	-01	28	05	10	04	04
2 SAT	887.52	136.67	866.50	105.69	41	1	-003	02	21	-03	-01	11	03
3 SPT	19.35	.93	19.78	.83	-22	-05	1	-14	-07	02	-004	-02	-03
4 Soc	69.99	4.31	69.96	4.38	05	09	10	1	46	27	39	35	21
5 Acad	70.00	3.78	70.00	4.12	32	38	-04	49	1	24	28	36	30
6 Goal	4.87	.42	4.82	.48	04	02	-08	20	19	1	25	45	38
7 Inst	8.72	1.72	8.16	1.70	11	04	-002	46	37	32	1	48	30
8 Intent	4.5	1.05	4.51	1.02	00	01	07	30	20	19	60	1	75
9 Persist	1.94	.24	1.91	.34	-14	-16	10	18	-04	10	40	70	1

[a] Matrix above the diagonal for 4-yr public, below the diagonal for 2-yr private, decimals omitted from correlations.

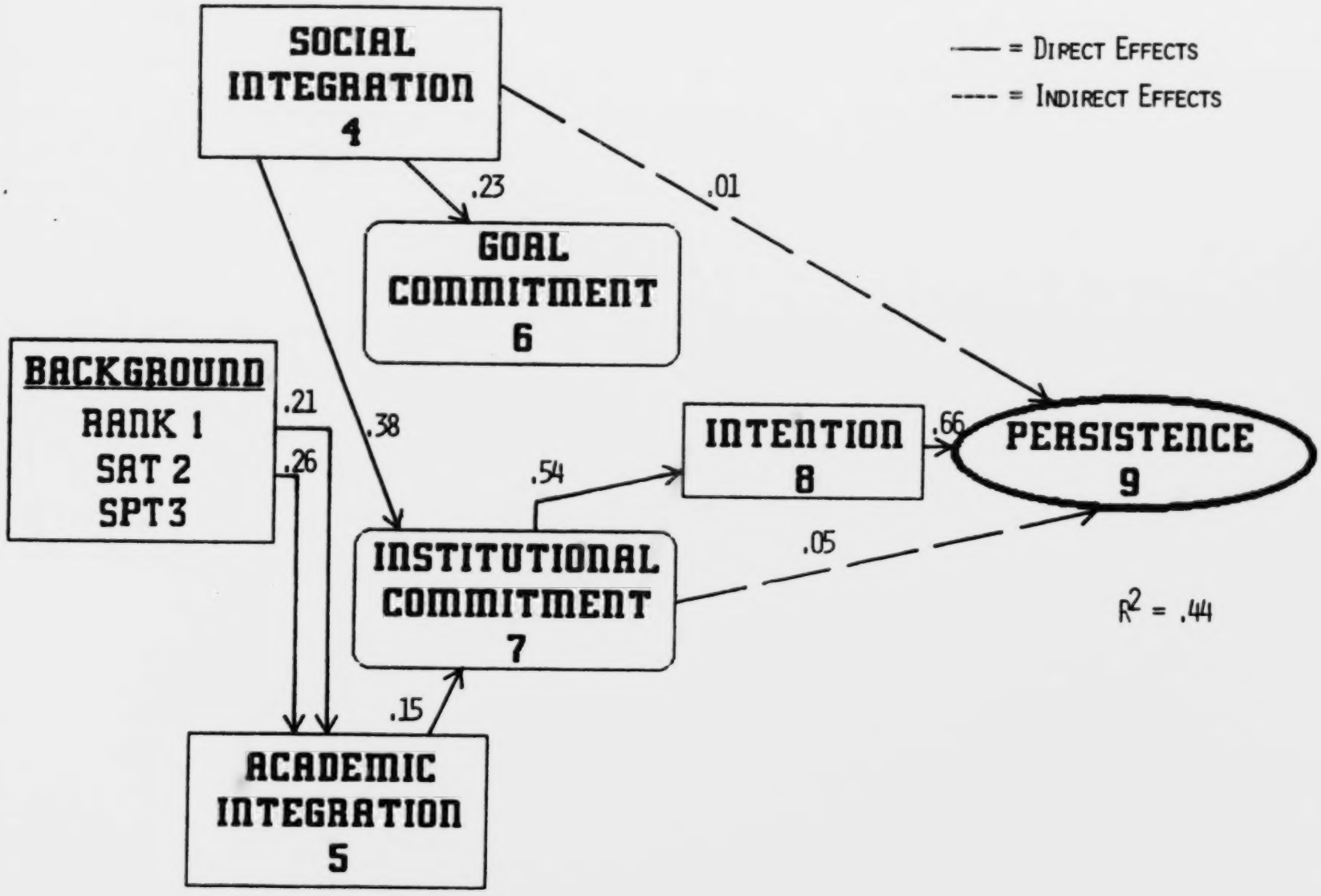

FIGURE 1. REDUCED PATH MODEL FOR POOLED SAMPLE (N = 265)

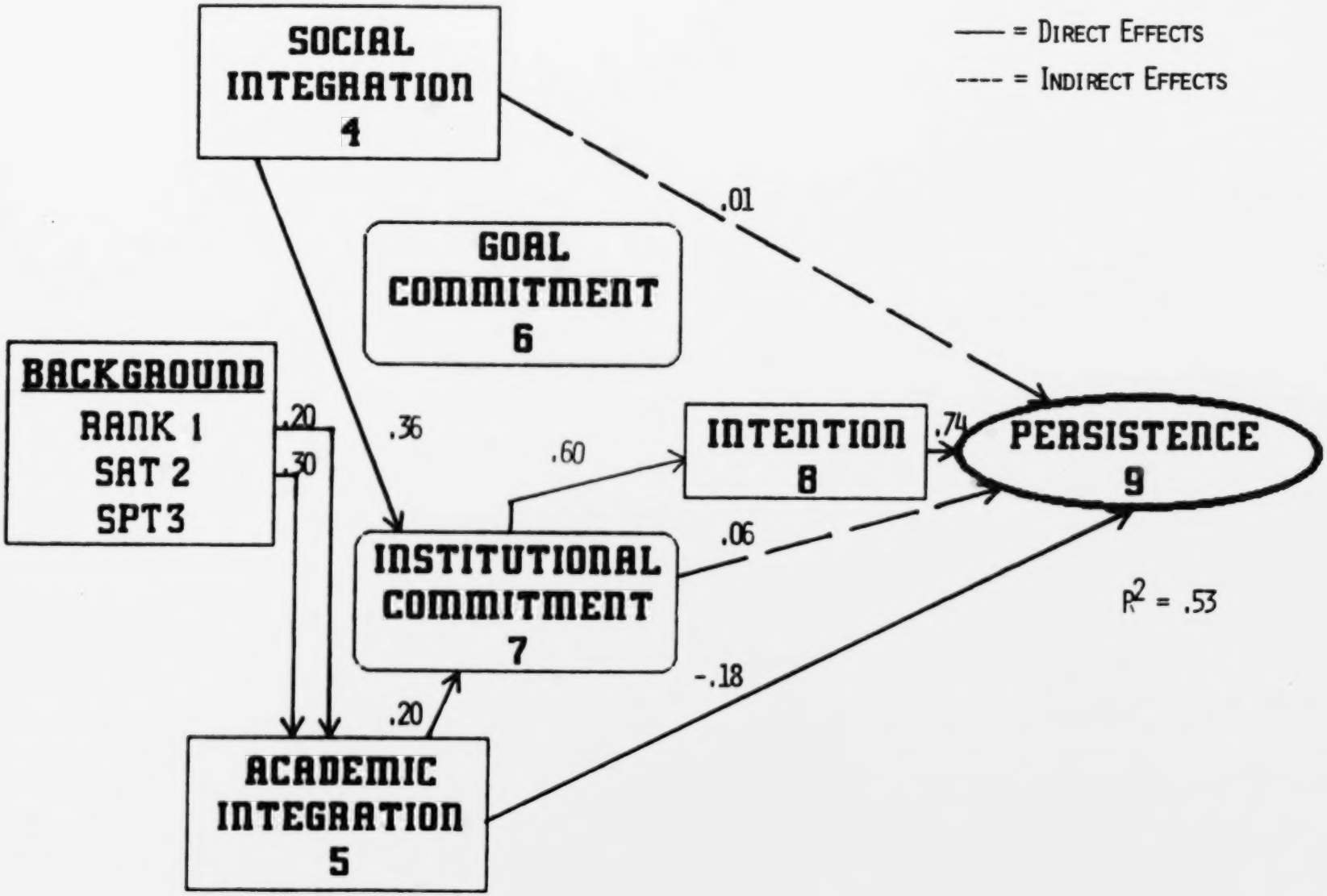

FIGURE 2. REDUCED PATH MODEL FOR 2-YEAR, PRIMARILY RESIDENTIAL, PRIVATE WOMEN'S COLLEGE (N = 165)

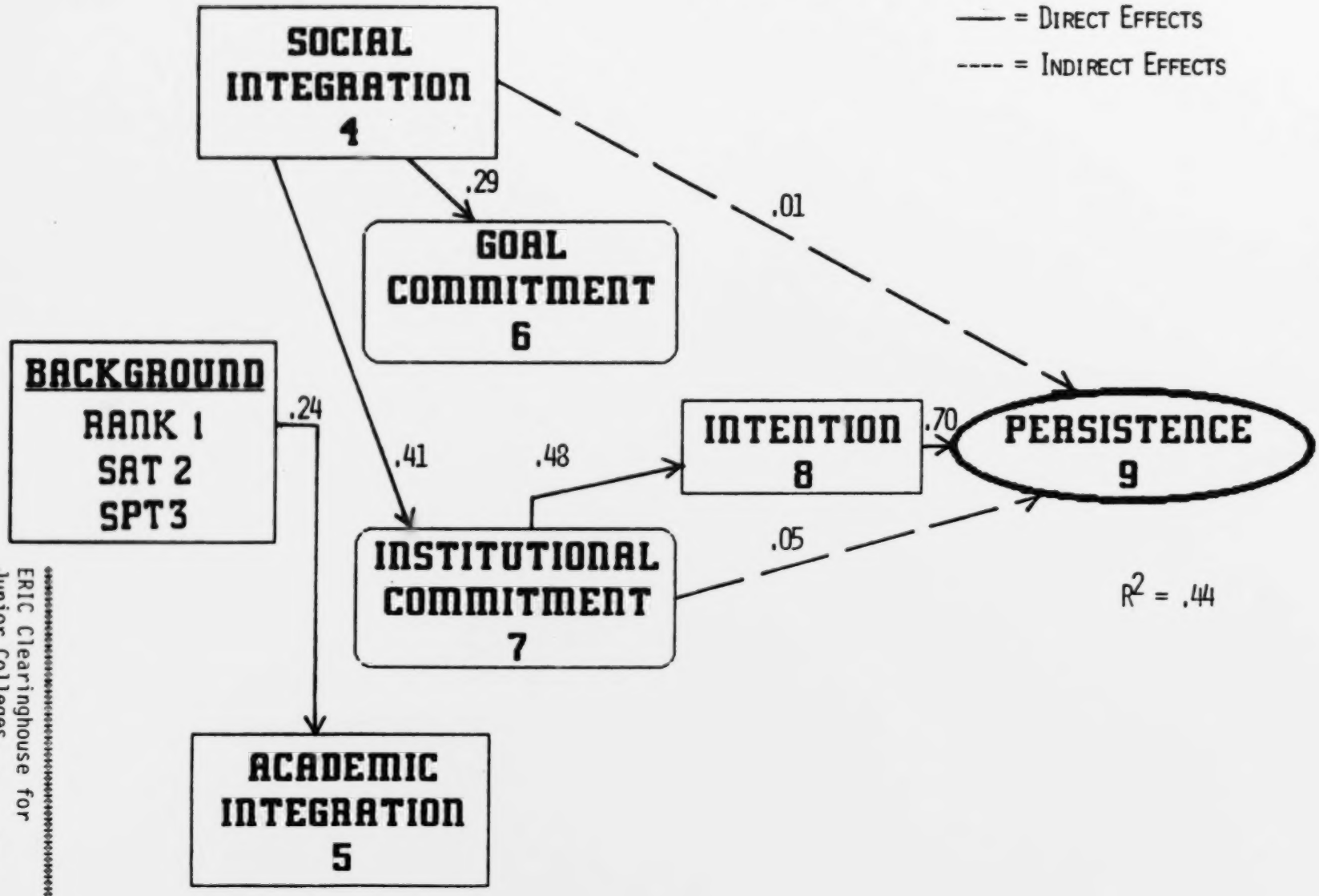

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FIGURE 3. REDUCED PATH MODEL FOR 4-YEAR, PRIMARILY COMMUTER, PUBLIC INSTITUTION (N = 100)